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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,236	10/14/2004	Eberhard Fuchs	259819US0PCT	7045
22850	7590	03/31/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PUTTLITZ, KARL J	
			ART UNIT	PAPER NUMBER
			1621	
DATE MAILED: 03/31/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/510,236

Applicant(s)

FUCHS ET AL

Examiner

Karl J. Puttlitz

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/14/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. It does not identify any PCT information on which priority is claimed, by specifying the application number, country, day, month and year of its filing.

Claim Rejections - 35 USC §§ 112, 101

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 3 recite a step wherein the acrylic acid removed in the distillation apparatus is taken up immediately from the gas phase into an aqueous solution of an alkali metal hydroxide, an alkali metal carbonate and/or an alkali metal hydrogencarbonate. It is unclear if the aqueous solution requires the presence of

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alkali metal hydroxide, an alkali metal carbonate and the alkali metal hydrogencarbonate, or one or more of these reagents.

Claim 2 provides for the use of an aqueous alkali metal acrylate solution but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 2 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 3432082 (DE 082) in view of U.S. Patent No. 4,219,389 to Biola et al. (Biola).

Claims 1 is drawn to a process for preparing an aqueous alkali metal acrylate solution by distillatively removing acrylic acid from an acrylic acid-containing mixture and generating an aqueous alkali metal acrylate solution from the distillatively removed acrylic acid and an aqueous solution of a basic alkali metal salt, which comprises

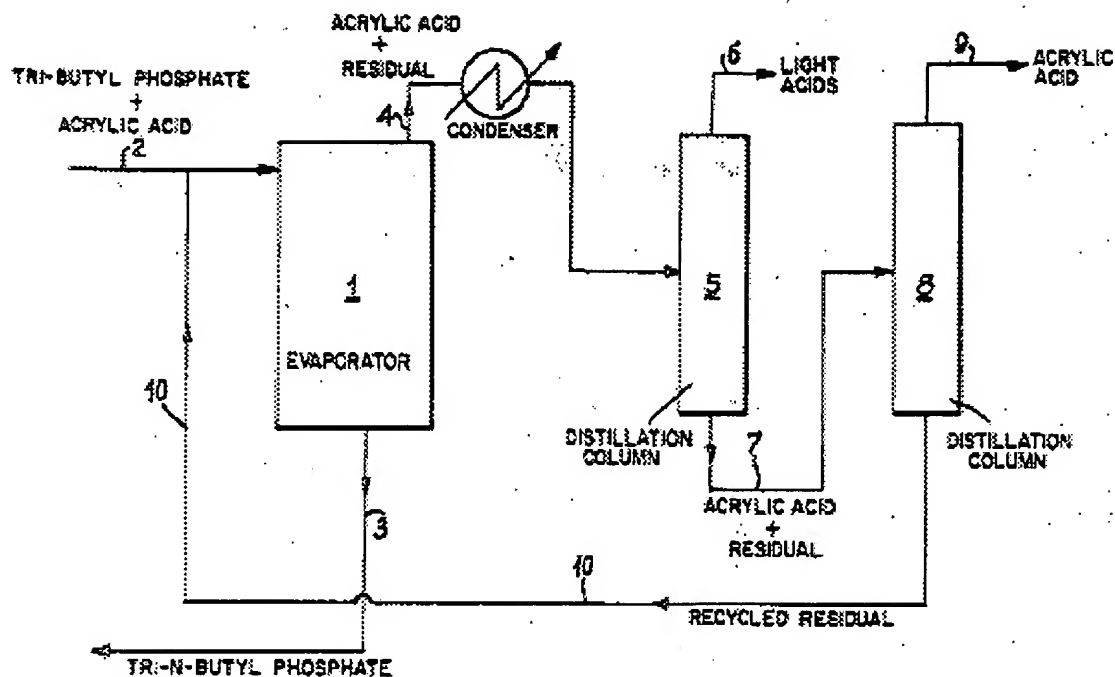
- a) feeding the acrylic acid-containing mixture to a distillation apparatus,
- b) carrying out the removal of the acrylic acid from the acrylic acid-containing mixture in the distillation apparatus above the feed point and
- c) generating the aqueous alkali metal acrylate solution in such a manner that the acrylic acid removed in the distillation apparatus is taken up immediately from the gas phase into an aqueous solution of an alkali metal hydroxide, an alkali metal carbonate and/or an alkali metal hydrogencarbonate.

Claim 3 covers those embodiments wherein the acrylic acid removed in the distillation apparatus is taken up immediately from the gas phase into an aqueous solution of an alkali metal hydroxide, an alkali metal carbonate and/or an alkali metal hydrogencarbonate in a polymerization apparatus.

With regard to the above embodiments, DE 082 teaches preparing aqueous alkali metal acrylates by mixing acrylic acid with aqueous slurries of alkali earth carbonates, adding alkali metal bicarbonates, and separating the alkali earth carbonates. See CHEMICAL ABSTRACTS online citation [retrieved 7 March 2006] on STN, Columbus OH, USA, Abstract No. 1986:225368.

With regard to a "polymerization apparatus", as recited in claim 3, the claim fails to require a step of polymerizing. Therefore, any vessel contemplated by the reference which contains the required reaction can be a "polymerization apparatus". See M.P.E.P. § 2111 ("During patent examination, the pending claims must be "given *>their< broadest reasonable interpretation consistent with the specification." >*In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).< Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969)").

The difference between the process disclosed in DE 082 and the process covered in claim 1 is that DE 082 fails to explicitly teach steps a) and b), above, namely, feeding the acrylic acid-containing mixture to a distillation apparatus, and carrying out the removal of the acrylic acid from the acrylic acid-containing mixture in the distillation apparatus above the feed point. It is for this proposition that the examiner joins Biola. In this regard, Biola teaches a process for the separation and recovery of essentially pure acrylic acid. Specifically, Biola schematically teaches the process with reference to the following figure:



wherein the liquid exiting from the base of the column via line 7 represented tributyl phosphate, acrylic acid and acetic acid. This product was conveyed to the column 8. The fraction at the head 9 corresponded to a production of acrylic acid of 99.65% purity, see column 5, lines 37-46. Accordingly, those of ordinary skill would have been motivated to modify DE082 to include a step of feeding the acrylic acid-containing mixture to a distillation apparatus, and carrying out the removal of the acrylic acid from the acrylic acid-containing mixture since Biola illustrates that this process produces essentially pure acrylic acid, suitable for processing into the corresponding alkali metal salts, as claimed. Therefore the combination of DE 082 and Biola renders claims 1 and 2 prima facie obvious since these references teach the elements of claim 1 with a reasonable expectation of success.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 082 in view of Biola as applied to claim 1 above, and further in view of U.S. Patent No. 4,340,706 to Obayashi et al. (Obayashi).

Claim 2 covers the use of an aqueous alkali metal acrylate solution which has been prepared by a process as claimed in claim 1 for preparing a polyacrylate.

Neither DE 082 nor Biola teach the above requirements of claim 2. It is for this proposition, however, that the examiner joins Obayashi. Obayashi teaches a process for producing an alkali metal acrylate or ammonium acrylate polymer. Specifically, the patent discusses that polymerization of alkali acrylates is commonplace to provide resins. For example, Obayashi teaches polymerization at column 1, lines 56-62 and teaches that "[a]s the process for polymerizing acrylic acid and an alkali acrylate, there have hitherto been known various processes such as bulk polymerization, aqueous solution polymerization, spray polymerization, inverse emulsion polymerization, inverse suspension polymerization and the like". Accordingly, those of ordinary skill would have been motivated to modify any of DE 082 or Obayashi to include a polymerization of alkali acrylates since Obayashi teaches that this step is routine for providing water absorbent resins, see column 1, line 1. Therefore, the combination of DE 082 and Biola with Obayashi renders claim 2 prima facie obvious since this combination of references teach the elements of claim 2 with a reasonable expectation of success.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl J. Puttlitz whose telephone number is (571) 272-0645. The examiner can normally be reached on Monday to Friday from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter, can be reached at telephone number (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karl J. Puttlitz
Assistant Examiner